

Appendix table 7-11.

Public understanding of the nature of scientific inquiry: 2001

Characteristic	Inquiry	Scientific study	Experiment	Probability
All adults	30	33	43	57
Male	30	33	44	58
Female	29	33	43	56
Formal education				
Less than high school	10	24	26	32
High school graduate	28	26	41	59
Baccalaureate	45	52	58	70
Graduate/professional	54	59	67	76
Science/mathematics education^a				
Low	17	19	29	47
Middle	38	39	54	63
High	53	55	64	77
Attentiveness to science and technology^b				
Attentive public	35	33	43	63
Interested public	32	34	45	58
Residual public	26	32	41	55

^aRespondents were classified as having a "high" level of science/mathematics education if they took nine or more high school and college science/math courses. They were classified as "middle" if they took six to eight such courses and "low" if they took five or fewer

^bTo be classified as attentive to a given policy area, an individual must indicate that he or she is "very interested" in that issue, is "very well informed" about it, and is a regular reader of a daily newspaper or relevant national magazine. Individuals who report that they are "very interested" in an issue but do not think that they are "very well informed" about it are classified as the "interested public." All other individuals are classified as members of the "residual public" for that issue. The attentive public for science and technology combines the attentive public for new scientific discoveries and the attentive public for new inventions and technologies. Any individual who is not attentive to either of these issues but who is a member of the interested public for at least one of these issues is classified as a member of the interested public for science and technology. All other individuals are classified as members of the residual public for science and technology

NOTES: The level of understanding of the nature of scientific inquiry is estimated using a combination of each survey participant's responses to three questions. To be classified as understanding the nature of scientific inquiry, a respondent had to answer all the probability questions correctly and either provide a "theory-testing" response to the question about what it means to study something scientifically or provide a correct response to the open-ended questions about the experiment, i.e., explain why it was better to test a drug using a control group. Responses are to the following:

–When you read news stories, you see certain sets of words and terms. We are interested in how many people recognize certain kinds of terms, and I would like to ask you a few brief questions in that regard. First, some articles refer to the results of a scientific study. When you read or hear the term scientific study, do you have a clear understanding of what it means, a general sense of what it means, or little understanding of what it means?" If the response is "clear understanding" or "general sense": In your own words, could you tell me what it means to study something scientifically?

–Now, please think of this situation: Two scientists want to know if a certain drug is effective in treating high blood pressure. The first scientist wants to give the drug to 1,000 people with high blood pressure and see how many experience lower blood pressure levels. The second scientist wants to give the drug to 500 people with high blood pressure and not give the drug to another 500 people with high blood pressure and see how many in both groups experience lower blood pressure levels. Which is the better way to test this drug? Why is it better to test the drug this way?

–Now think about this situation: A doctor tells a couple that their "genetic makeup" means that they've got one in four chances of having a child with an inherited illness. Does this mean that if their first three children are healthy, the fourth will have the illness? Does this mean that if their first child has the illness, the next three will not? Does this mean that each of the couple's children will have the same risk of suffering from the illness? Does this mean that if they have only three children, none will have the illness?

SOURCE: National Science Foundation, Division of Science Resources Statistics (NSF/SRS), NSF Survey of Public Attitudes Toward and Understanding of Science and Technology, 2001.

See figure 7-5 in Volume 1.

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